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NPIC/TSSG/RED/SDB-006-70  
23 January 1970

**MEMORANDUM FOR THE RECORD**

**SUBJECT: Twin Stage On-Line PI Comparator**

1. As the result of test and evaluation of the Twin Stage Comparator (TSC) several deficiencies in the operation of the instrument became apparent. The major of these being:

- a. Failure of both stages to track in the same angular direction in the slow mode as directed by the joystick control.
- b. Failure of both stages to move simultaneously in the slow pointing mode.
- c. Failure to fine focus with the 1.3X and 3X objectives, using the 10X eyepiece.
- d. Failure to obtain precise positioning with the existing joystick control.

2. Since none of the above problems were specifically defined and detailed in the development objectives, the contractor, [REDACTED] was called in to ascertain what steps could be taken to overcome this situation. It was determined that 'a' and 'b' above could be overcome by a different drive system--possibly a stepping motor system; 'c' is the result of a slipped relay lens in the optical system. Item 'd', after much discussion, cannot be resolved with the present joystick control, and to replace it with a different drive system would require a major redesign of the instrument. It was decided the best and least costly approach would be to extend handwheels at convenient operator locations for the fine x-y adjustments of both stages.

3. The contractor was asked at the conclusion of the meeting to furnish a write-up describing the recommended solutions with accompanying detailed cost break-out.

25X1

Declass Review by NIMA/DOD

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4. Discussion of the proposed 10" x 10" comparator was also held with the contractor and IEG/PD personnel, concerning desired changes in the proposal. The contractor will submit a revised proposal containing the changes and a new cost figure in the near future.

[REDACTED]  
Project Monitor  
NPIC/TSSG/RED/SDB

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Distribution:

Original - Route & File

1 - NPIC/TSSG/RED/SDB

1 - NPIC/TSSG/ESD (Att: [REDACTED])

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